

Name: _____ Date: _____ Period: _____

SPECIAL PRODUCTS

$$(a+b)(a+b)=a^2+2ab+b^2 \quad (a+b)(a-b)=a^2-b^2 \quad (a-b)(a-b)=a^2-2ab+b^2$$

Use the FOIL Method and then compare it to the Special Product Rules

$(x+2)(x+2)$ $\frac{x^2 + 2x + 2x + 4}{\text{F} + \text{O} + \text{I} + \text{L}}$ $x^2 + 2x + 2x + 4$ $x^2 + 4x + 4$ $x^2 + 2(2x) + 2^2$ <p>Rule</p>	$(x+2)(x-2)$ $\frac{x^2 + (-2x) + 2x + 4}{\text{F} + \text{O} + \text{I} + \text{L}}$ $x^2 - 4$ $x^2 - 2^2$ <p>Rule</p>	$(x-2)(x-2)$ $\frac{x^2 + (-2x) + (-2x) + 4}{\text{F} + \text{O} + \text{I} + \text{L}}$ $x^2 + -2x + -2x + 4$ $x^2 - 4x + 4$ $x^2 - 2(2x) + 2^2$ <p>Rule</p>
$(x+1)(x+1)$ $\frac{\quad}{\text{F}} + \frac{\quad}{\text{O}} + \frac{\quad}{\text{I}} + \frac{\quad}{\text{L}}$	$(x+1)(x-1)$ $\frac{\quad}{\text{F}} + \frac{\quad}{\text{O}} + \frac{\quad}{\text{I}} + \frac{\quad}{\text{L}}$	$(x-1)(x-1)$ $\frac{\quad}{\text{F}} + \frac{\quad}{\text{O}} + \frac{\quad}{\text{I}} + \frac{\quad}{\text{L}}$
$(x+5)(x+5)$	$(x+5)(x-5)$	$(x-5)(x-5)$

$$(a+b)(a+b)=a^2+2ab+b^2$$

$$(a-b)(a-b)=a^2-2ab+b^2$$

Recall

Recall

$$(a+b)^2=(a+b)(a+b)$$

$$(a-b)^2=(a-b)(a-b)$$

$$(a+b)(a-b)=a^2-b^2$$

Identify and use the Special Products Rule

$(x-10)^2$ $\overline{\text{F}} + \overline{\text{O}} + \overline{\text{I}} + \overline{\text{L}}$	$(x+2)(x-2)$ $\overline{\text{F}} + \overline{\text{O}} + \overline{\text{I}} + \overline{\text{L}}$	$(x+6)^2$ $\overline{\text{F}} + \overline{\text{O}} + \overline{\text{I}} + \overline{\text{L}}$
$(3x+2)(3x-2)$	$(x+\frac{1}{2})(x-\frac{1}{2})$	$(x-1)^2$
$(x+5)(x+5)$	$(2x-4)(2x+4)$	$(5x-1)^2$